Avtar K Handa

List of Publications by Year
in descending order

102 papers	8,486 citations	53660 45 h-index	45213 90 g-index
128 all docs	128 docs citations	128 times ranked	6892 citing authors

#	ARTICLE	IF	CITATIONS
1	Chemistry and uses of pectin â€" A review. Critical Reviews in Food Science and Nutrition, 1997, 37, 47-73.	5.4	1,182
2	Characterization of Osmotin. Plant Physiology, 1987, 85, 529-536.	2.3	446
3	Engineered polyamine accumulation in tomato enhances phytonutrient content, juice quality, and vine life. Nature Biotechnology, 2002, 20, 613-618.	9.4	352
4	Critical roles of DNA demethylation in the activation of ripening-induced genes and inhibition of ripening-repressed genes in tomato fruit. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E4511-E4519.	3.3	342
5	Interaction between the tobacco mosaic virus movement protein and host cell pectin methylesterases is required for viral cell-to-cell movement. EMBO Journal, 2000, 19, 913-920.	3.5	306
6	Hormonal Regulation of Tomato Fruit Development: A Molecular Perspective. Journal of Plant Growth Regulation, 2005, 24, 67-82.	2.8	258
7	Proteins Associated with Adaptation of Cultured Tobacco Cells to NaCl. Plant Physiology, 1985, 79, 126-137.	2.3	252
8	An Antisense Pectin Methylesterase Gene Alters Pectin Chemistry and Soluble Solids in Tomato Fruit.. Plant Cell, 1992, 4, 667-679.	3.1	238
9	Proline Accumulation and the Adaptation of Cultured Plant Cells to Water Stress. Plant Physiology, 1986, 80, 938-945.	2.3	214
10	Reduction in Pectin Methylesterase Activity Modifies Tissue Integrity and Cation Levels in Ripening Tomato (Lycopersicon esculentum Mill.) Fruits. Plant Physiology, 1994, 106, 429-436.	2.3	191
11	Solutes Contributing to Osmotic Adjustment in Cultured Plant Cells Adapted to Water Stress. Plant Physiology, 1983, 73, 834-843.	2.3	185
12	Polyamines: Bio-Molecules with Diverse Functions in Plant and Human Health and Disease. Frontiers in Chemistry, 2018, 6, 10.	1.8	183
13	Hormonal regulation of protein synthesis associated with salt tolerance in plant cells. Proceedings of the National Academy of Sciences of the United States of America, 1987, 84, 739-743.	3.3	169
14	Solute Accumulation in Tobacco Cells Adapted to NaCl. Plant Physiology, 1987, 84, 1408-1415.	2.3	168
15	Adaptation of Tobacco Cells to NaCl. Plant Physiology, 1985, 79, 118-125.	2.3	164
16	Polyamines and cellular metabolism in plants: transgenic approaches reveal different responses to diamine putrescine versus higher polyamines spermidine and spermine. Amino Acids, 2010, 38, 405-413.	1.2	142
17	Nuclear Magnetic Resonance Spectroscopy-Based Metabolite Profiling of Transgenic Tomato Fruit Engineered to Accumulate Spermidine and Spermine Reveals Enhanced Anabolic and Nitrogen-Carbon Interactions. Plant Physiology, 2006, 142, 1759-1770.	2.3	141
18	Wounding induces the first enzyme of the shikimate pathway in Solanaceae. Proceedings of the National Academy of Sciences of the United States of America, 1989, 86, 7370-7373.	3.3	136

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19	Molecular Cloning of Tomato Pectin Methylesterase Gene and its Expression in Rutgers, Ripening Inhibitor, Nonripening, and Never Ripe Tomato Fruits. Plant Physiology, 1991, 97, 80-87.	2.3	131
20	Differential and functional interactions emphasize the multiple roles of polyamines in plants. Plant Physiology and Biochemistry, 2010, 48, 540-546.	2.8	126
21	Overexpression of yeast spermidine synthase impacts ripening, senescence and decay symptoms in tomato. Plant Journal, 2010, 63, 836-847.	2.8	120
22	Growth characteristics of NaCl-selected and nonselected cells of Nicotiana tabacum L.. Plant and Cell Physiology, 1980, 21, 1347-1355.	1.5	112
23	Characterization and Functional Expression of a Ubiquitously Expressed Tomato Pectin Methylesterase. Plant Physiology, 1997, 114, 1547-1556.	2.3	112
24	Polyamines Attenuate Ethylene-Mediated Defense Responses to Abrogate Resistance to <i>Botrytis cinerea</i> in Tomato Â Â Â. Plant Physiology, 2012, 158, 1034-1045.	2.3	111
25	Resistance of cultured higher plant cells to polyethylene glycol-induced water stress. Plant Science Letters, 1981, 21, 23-30.	1.9	106
26	Biochemical basis of highâ€temperature inhibition of ethylene biosynthesis in ripening tomato fruits. Physiologia Plantarum, 1988, 72, 572-578.	2.6	104
27	Pectin Methylesterase Regulates Methanol and Ethanol Accumulation in Ripening Tomato (Lycopersicon esculentum) Fruit. Journal of Biological Chemistry, 1998, 273, 4293-4295.	1.6	100
28	Abscisic Acid Accelerates Adaptation of Cultured Tobacco Cells to Salt. Plant Physiology, 1985, 79, 138-142.	2.3	89
29	Synthesis and processing of maize storage proteins in Xenopus laevis oocytes. Proceedings of the National Academy of Sciences of the United States of America, 1979, 76, 6448-6452.	3.3	84
30	Higher polyamines restore and enhance metabolic memory in ripening fruit. Plant Science, 2008, 174, 386-393.	1.7	84
31	Role of pectin methylesterases in cellular calcium distribution and blossomâ€end rot development in tomato fruit. Plant Journal, 2012, 71, 824-835.	2.8	83
32	Changes in Gene Expression during Tomato Fruit Ripening. Plant Physiology, 1986, 81, 395-403.	2.3	79
33	An Antisense Pectin Methylesterase Gene Alters Pectin Chemistry and Soluble Solids in Tomato Fruit. Plant Cell, 1992, 4, 667.	3.1	75
34	Characteristics of Cultured Tomato Cells after Prolonged Exposure to Medium Containing Polyethylene Glycol. Plant Physiology, 1982, 69, 514-521.	2.3	73
35	A Novel Small Heat Shock Protein Gene, vis1, Contributes to Pectin Depolymerization and Juice Viscosity in Tomato Fruit. Plant Physiology, 2003, 131, 725-735.	2.3	63
36	Pathogenesis-Related Protein 1b1 (PR1b1) Is a Major Tomato Fruit Protein Responsive to Chilling Temperature and Upregulated in High Polyamine Transgenic Genotypes. Frontiers in Plant Science, 2016, 7, 901.	1.7	61

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37	Growth and Water Relations of Cultured Tomato Cells after Adjustment to Low External Water Potentials. Plant Physiology, 1982, 70, 1303-1309.	2.3	60
38	Molecular Cloning of a Ripening-Specific Lipoxygenase and Its Expression during Wild-Type and Mutant Tomato Fruit Development. Plant Physiology, 1997, 113, 1041-1050.	2.3	59
39	Light and Fungal Elicitor Induce 3-Deoxy-d-arabino-Heptulosonate 7-Phosphate Synthase mRNA in Suspension Cultured Cells of Parsley (Petroselinum crispum L.). Plant Physiology, 1992, 98, 761-763.	2.3	56
40	Temporal Regulation of Polygalacturonase Gene Expression in Fruits of Normal, Mutant, and Heterozygous Tomato Genotypes. Plant Physiology, 1989, 89, 117-125.	2.3	54
41	Glutathione Peroxidase Regulation of Reactive Oxygen Species Level is Crucial for In Vitro Plant Differentiation. Plant and Cell Physiology, 2010, 51, 1151-1162.	1.5	53
42	Tomato Product Quality from Transgenic Fruits with Reduced Pectin Methylesterase. Journal of Food Science, 1996, 61, 85-87.	1.5	49
43	Identification of a Pathogenicity Locus, rpfA, in Erwinia carotovora subsp. carotovora That Encodes a Two-Component Sensor-Regulator Protein. Molecular Plant-Microbe Interactions, 1997, 10, 407-415.	1.4	49
44	Polyamine Interactions with Plant Hormones: Crosstalk at Several Levels. , 2015, , 267-302.		49
45	Critical function of DNA methyltransferase 1 in tomato development and regulation of the DNA methylome and transcriptome. Journal of Integrative Plant Biology, 2019, 61, 1224-1242.	4.1	49
46	Differential expression of tomato (Lycopersicon esculentum L.) genes encoding shikimate pathway isoenzymes. I. 3-Deoxy-D-arabino-heptulosonate 7-phosphate synthase. Plant Molecular Biology, 1993, 23, 697-706.	2.0	48
47	Enhanced flux of substrates into polyamine biosynthesis but not ethylene in tomato fruit engineered with yeast S-adenosylmethionine decarboxylase gene. Amino Acids, 2014, 46, 729-742.	1.2	46
48	Immunocytolocalization of Polygalacturonase in Ripening Tomato Fruit. Plant Physiology, 1989, 90, 17-20.	2.3	45
49	Overaccumulation of Higher Polyamines in Ripening Transgenic Tomato Fruit Revives Metabolic Memory, Upregulates Anabolism-Related Genes, and Positively Impacts Nutritional Quality. Journal of AOAC INTERNATIONAL, 2007, 90, 1456-1464.	0.7	45
50	Methyl jasmonate deficiency alters cellular metabolome, including the aminome of tomato (Solanum) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	1.2	43
51	Cyclic Adenosine 3â€²:5â€²-Monophosphate in Moss Protonema. Plant Physiology, 1977, 59, 490-496.	2.3	41
52	Effect of nitrogen starvation on the level of adenosine 3â€²,5â€²-monophosphate in Anabaena variabilis. Biochimica Et Biophysica Acta - General Subjects, 1979, 588, 193-200.	1.1	41
53	Transcript Abundance Patterns of 9- and 13-Lipoxygenase Subfamily Gene Members in Response to Abiotic Stresses (Heat, Cold, Drought or Salt) in Tomato (Solanum lycopersicum L.) Highlights Member-Specific Dynamics Relevant to Each Stress. Genes, 2019, 10, 683.	1.0	40
54	A field-grown transgenic tomato line expressing higher levels of polyamines reveals legume cover crop mulch-specific perturbations in fruit phenotype at the levels of metabolite profiles, gene expression, and agronomic characteristics. Journal of Experimental Botany, 2008, 59, 2337-2346.	2.4	39

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55	Impaired Wound Induction of 3-Deoxy-D-arabino-heptulosonate-7-phosphate (DAHP) Synthase and Altered Stem Development in Transgenic Potato Plants Expressing a DAHP Synthase Antisense Construct. Plant Physiology, 1995, 108, 1413-1421.	2.3	38
56	Polyamines as anabolic growth regulators revealed by transcriptome analysis and metabolite profiles of tomato fruits engineered to accumulate spermidine and spermine. Plant Biotechnology, 2007, 24, 57-70.	0.5	38
57	Clonal Variation for Tolerance to Polyethylene Glycol-Induced Water Stress in Cultured Tomato Cells. Plant Physiology, 1983, 72, 645-653.	2.3	37
58	Differential regulation of polygalacturonase and pectin methylesterase gene expression during and after heat stress in ripening tomato (Lycopersicon esculentum Mill.) fruits. Plant Molecular Biology, 1995, 29, 1101-1110.	2.0	37
59	Effect of an Antisense Pectin Methylesterase Gene on the Chemistry of Pectin in Tomato (Lycopersiconesculentum) Juiceâ€. Journal of Agricultural and Food Chemistry, 1996, 44, 628-630.	2.4	31
60	Polyamines and Their Biosynthesis/Catabolism Genes Are Differentially Modulated in Response to Heat Versus Cold Stress in Tomato Leaves (Solanum lycopersicum L.). Cells, 2020, 9, 1749.	1.8	29
61	Changes in Protein Patterns and In Vivo Protein Synthesis during Presenescence and Senescence of Hibiscus Petals. Journal of Plant Physiology, 1987, 128, 67-75.	1.6	28
62	Post-transcriptional silencing of pectin methylesterase gene in transgenic tomato fruits results from impaired pre-mRNA processing. Plant Journal, 1998, 14, 583-592.	2.8	28
63	Hot Water Treatment Delays Ripening-associated Metabolic Shift in â€˜Okrongâ€™ Mango Fruit during Storage. Journal of the American Society for Horticultural Science, 2011, 136, 441-451.	0.5	28
64	Synthesis and Release of Cyclic Adenosine 3â€²:5â€²-Monophosphate by Ochromonas malhamensis. Plant Physiology, 1980, 65, 165-170.	2.3	26
65	Involvement of cyclic adenosine-3?, 5?-monophosphate in chloronema differentiation in protonema cultures of Funaria hygrometrica. Planta, 1979, 144, 317-324.	1.6	25
66	Effect of Ethylene Action Inhibitors upon Wound-Induced Gene Expression in Tomato Pericarp. Plant Physiology, 1989, 91, 157-162.	2.3	25
67	Genetic Engineering to Enhance Crop-Based Phytonutrients (Nutraceuticals) to Alleviate Diet-Related Diseases. Advances in Experimental Medicine and Biology, 2010, 698, 122-143.	0.8	24
68	Genetic introgression of ethylene-suppressed transgenic tomatoes with higher-polyamines trait overcomes many unintended effects due to reduced ethylene on the primary metabolome. Frontiers in Plant Science, 2014, 5, 632.	1.7	23
69	Plant Transcriptome Reprograming and Bacterial Extracellular Metabolites Underlying Tomato Drought Resistance Triggered by a Beneficial Soil Bacteria. Metabolites, 2021, 11, 369.	1.3	23
70	Effect of tunicamycin on in vitro ripening of tomato pericarp tissue. Physiologia Plantarum, 1985, 63, 417-424.	2.6	22
71	Fruit metabolite networks in engineered and non-engineered tomato genotypes reveal fluidity in a hormone and agroecosystem specific manner. Metabolomics, 2016, 12, 103.	1.4	21
72	Immuno slot-blot assay using a membrane which covalently binds protein. Journal of Immunological Methods, 1987, 101, 133-139.	0.6	20

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73	Maturity and ripening-stage specific modulation of tomato (<i>Solanum lycopersicum</i>) fruit transcriptome. GM Crops, 2010, 1, 237-249.	1.8	20
74	Functional analysis of tomato rhamnogalacturonan lyase gene Solyc11g011300 during fruit development and ripening. Journal of Plant Physiology, 2018, 231, 31-40.	1.6	20
75	Mutagenesis of Erwinia carotovora subsp. carotovora with bacteriophage Mu d1 (Apr lac cts62): construction of his-lac gene fusions. Journal of Bacteriology, 1984, 158, 764-766.	1.0	20
76	Overaccumulation of higher polyamines in ripening transgenic tomato fruit revives metabolic memory, upregulates anabolism-related genes, and positively impacts nutritional quality. Journal of AOAC INTERNATIONAL, 2007, 90, 1456-64.	0.7	20
77	Molecular Cloning and Characterization of Genes Expressed during Early Tomato (Lycopersicon) Tj ETQq1 1 0.784314 rgBT /Overlock 1 Horticultural Science, 1996, 121, 52-56.	0.5	18
78	Field Performance of Transgenic Tomato with Reduced Pectin Methylesterase Activity. Journal of the American Society for Horticultural Science, 1995, 120, 765-770.	0.5	16
79	Synthesis and release of adenosine 3â€²: 5â€²-cyclic monophosphate by Chlamydomonas reinhardtii. Phytochemistry, 1980, 19, 2089-2093.	1.4	15
80	Use of plant cell cultures to study production and phytotoxicity of Alternaria solani toxin(s). Physiological Plant Pathology, 1982, 21, 295-309.	1.4	15
81	Association of Formation and Release of Cyclic AMP with Glucose Depletion and Onset of Chlorophyll Synthesis in Poterioochromonas malhamensis. Plant Physiology, 1981, 68, 460-463.	2.3	14
82	Fruit Architecture in Polyamine-Rich Tomato Germplasm Is Determined via a Medley of Cell Cycle, Cell Expansion, and Fruit Shape Genes. Plants, 2019, 8, 387.	1.6	14
83	Effects of a mutation that eliminates UDP glucose-pyrophosphorylase on the pathogenicity of Erwinia carotovora subsp. carotovora. Journal of Bacteriology, 1985, 164, 473-476.	1.0	13
84	Assay of adenosine 3â€², 5â€² cyclic monophosphate by stimulation of protein kinase: A method not involving radioactivity. Analytical Biochemistry, 1980, 102, 332-339.	1.1	12
85	Ethylene Signaling in Plant Cell Death. , 2004, , 125-142.		12
86	Fruit development and ripening. , 2012, , 405-424.		12
87	Nexus Between Spermidine and Floral Organ Identity and Fruit/Seed Set in Tomato. Frontiers in Plant Science, 2019, 10, 1033.	1.7	12
88	Molecular Cloning and Nucleotide Sequence of a Lipoxygenase cDNA from Ripening Tomato Fruit. Plant Physiology, 1995, 107, 669-670.	2.3	9
89	EFFECT OF ADDED SOY PROTEIN ON THE QUALITY OF TOMATO SAUCE. Journal of Food Processing and Preservation, 1996, 20, 169-176.	0.9	8
90	Differential Association of Free, Conjugated, and Bound Forms of Polyamines and Transcript Abundance of Their Biosynthetic and Catabolic Genes During Drought/Salinity Stress in Tomato (Solanum lycopersicum L.) Leaves. Frontiers in Plant Science, 2021, 12, 743568.	1.7	8

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91	PHYSIOLOGICAL AND HERITABLE CHANGES IN CYCLIC AMP LEVELS ASSOCIATED WITH CHANGES IN FLAGELLAR FORMATION IN CHLAMYDOMONAS REINHARDTII (CHLOROPHYTA)1. Journal of Phycology, 1991, 27, 587-591.	1.0	7
92	Functional Foods: Genetics, Metabolome, and Engineering Phytonutrient Levels. , 2013, , 1715-1749.		7
93	Functional analysis of a tomato (Solanum lycopersicum L.) rhamnogalacturonan lyase promoter. Journal of Plant Physiology, 2018, 229, 175-184.	1.6	7
94	Engineered Ripening-Specific Accumulation of Polyamines Spermidine and Spermine in Tomato Fruit Upregulates Clustered C/D Box snoRNA Gene Transcripts in Concert with Ribosomal RNA Biogenesis in the Red Ripe Fruit. Plants, 2020, 9, 1710.	1.6	5
95	Adenylate cyclase from the phytopathogenic fungusAlternaria solani. FEMS Microbiology Letters, 1985, 27, 313-318.	0.7	4
96	Biotechnological Interventions to Improve Plant Developmental Traits. , 2010, , 199-248.		4
97	Meiotic Reestablishment of Post-Transcriptional Gene Silencing is Regulated by Aberrant RNA Formation in Tomato (Lycopersicon esculentum cv. Mill.). Molecular Breeding, 2005, 16, 139-149.	1.0	3
98	Behavior of bacteriophage P1 inErwinia carotovora subsp.carotovora. Current Microbiology, 1985, 12, 73-78.	1.0	2
99	Occurrence of cyclic adenosine 3?,5?-monophosphate in the phytopathogenic fungi Alternaria solani and Phymatotrichum omnivorum. Archives of Microbiology, 1983, 135, 125-129.	1.0	1
100	Polyamines crossâ€talk with phospholipase A2 to regulate gene expression in tomato fruit and other plant models. FASEB Journal, 2007, 21, A1044.	0.2	1
101	Studies on Inc-P plasmids inErwinia carotovorasubsp.carotovora. FEMS Microbiology Letters, 1986, 35, 307-312.	0.7	0
102	Application of Hexanal-containing Compositions and Its Effect on Shelf-life and Quality of Banana Varieties in Kenya. , 2018, , 191-198.		0